

1 [0146]

**ABSTRACT OF THE DISCLOSURE**

2 [0147] The disclosure pertains to a space-conserving integrated fluid delivery system  
3 which is particularly useful for gas distribution in semiconductor processing equipment.  
4 The present invention also pertains to an integrated fluid flow network architecture, which  
5 may include, in addition to a layered substrate containing fluid flow channels, various  
6 fluid handling and monitoring components. The layered substrate is diffusion bonded, and  
7 the various fluid handling and monitoring components may be partially integrated or fully  
8 integrated into the substrate, depending on design and material requirements.